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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,983	02/26/2004	Hiromitsu Uchida	1163-0496P	2640
2292	7590	04/06/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			HAM, SEUNGSOOK	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/785,983

Applicant(s)

UCHIDA ET AL.

Examiner

Seungsook Ham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/26/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

Figure 11 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

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In claim 1, lines 3 and 4, "a plurality of series resonant circuit having end terminals connected in **common**" is unclear as to what is meant by "common" (which embodiment shows such feature?). Moreover, claim 1, line 8, "roughly" is a relative term as to what would meet such limitation; and line 10, "to each other" (second occurrence) should be deleted.

In claim 3, line 7, and claim 10, line 6, "said other capacitor" lacks antecedent basis.

Claim 8, line 7, "roughly" is a relative term as to what would meet such limitation; and line 9, "to each other" (second occurrence) should be deleted.

Moreover, claims 1 and 8 are incomplete since they fail to describe a plurality of transmission lines formed two parallel line segment patterns and each parallel line segment having a plurality of series or parallel resonant circuits which is essential to the applicant's invention (see fig. 1, page 5, lines 23-30). See MPEP § 2172.01.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 8, 9, 11, 14 and 15 are rejected under 35 U.S.C. 102(a) as being anticipated by Uchida et al. ("Dielectric Resonator Elliptic-Function Band Rejection Filter with External Coupling Waveguide").

Uchida et al. (figs 1 and 2) discloses an identical band rejection filter with attenuation poles. It should be noted that the coupling slots between the rectangular waveguide and a jump-coupling/external coupling waveguide provides capacitors (see fig. 2).

Claims 1, 2, and 6 are rejected under 35 U.S.C. 102(a) as being anticipated by Uchida et al. ("Ku-Band Elliptic-Function Band-Rejection Filter with Dielectric Resonators").

Uchida et al. (figs. 1 and 2) discloses a band rejection filter with attenuation poles comprising: a plurality of series resonant circuit (see fig. 2) connected in series via a plurality of transmission lines each having a quarter wavelength; and a jump-coupling circuit (external coupling waveguide) for coupling two of the non-adjacent series resonant circuits. It should be noted that the coupling slots between the rectangular waveguide and a jump-coupling/external coupling waveguide provides capacitors.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8-10, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Atia (US '785).

Atia (figs. 2 and 2a) discloses a filter comprising: a plurality of parallel resonant circuits connected in series 40-54 via a plurality of transmission lines 70 each having a quarter wavelength; a jump-coupling circuit includes a quarter wavelength transmission line 60. It should be noted that a gap capacitor is existed between a series transmission line 70 and the jump-coupling transmission line 60. Thus, the jump-coupling circuit

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includes a capacitor and another capacitor and a transmission/microstrip line 60 located between them.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 9, 11, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida et al. ("Ku-Band Elliptic-Function Band-Rejection Filter with Dielectric Resonators").

Uchida et al. is applied as above. It is unclear as to whether each dielectric resonator being a parallel resonant circuit. However, using a dielectric resonator as a parallel resonant circuit is considered as an obvious modification since such design technique is well known in the art.

Claims 1-3, 6-10, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hong et al. ("Microstrip Filters for RF/Microwave Applications") in view of Miyazaki et al. (US '073).

Hong et al. (figs. 6.5-6.7) discloses a band rejection filter comprising; a plurality of series or parallel (see fig. 6.7) resonant circuits having end terminals connected in common (e.g., open end) and other end terminals connected in series via a plurality of transmission line each having a quarter wavelength (see fig. 6.5).

Hong et al. does not show a jump-coupling circuit for coupling two non-adjacent series resonant circuits. Miyazaki et al. (fig. 22) discloses a similar filter device having a jump-coupling circuit having a transmission/microstrip line 15 coupling two non-adjacent resonators 10a, 10d. Moreover, the both ends of the transmission line 15 provides a gap capacitor between the transmission line 15 and a resonator 10a, 10d.

It would have been obvious to one of ordinary skill in the art to provide a jump-coupling circuit between two non-adjacent resonators in the device of Hong et al. to provide an attenuation pole as taught by Miyazaki et al. (col. 17, lines 57-67). Providing the resonant circuits on a dielectric substrate is well known in the art, and it requires a routine skill in the art.

#### ***Allowable Subject Matter***

Claims 4, 5, 12 and 13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Matthaei (fig. 10), Makimoto et al. (fig. 8) and Takeda (fig. 1B) disclose a filter having a jump-coupling circuit to provide an attenuation pole;

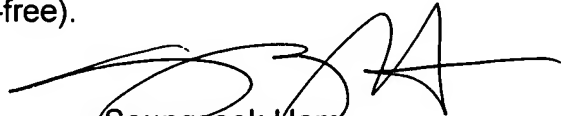
Endo and West disclose a conventional band rejection filter.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seungsook Ham whose telephone number is (571) 272-2405. The examiner can normally be reached on Monday-Thursday, 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Seungsook Ham  
Primary Examiner  
Art Unit 2817

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